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NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 AUG 09 INSPEC enhanced with 1898-1968 archive
NEWS 4 AUG 28 ADISCTI Reloaded and Enhanced
NEWS 5 AUG 30 CA(SM)/CAplus(SM) Austrian patent law changes
NEWS 6 SEP 11 CA/CAplus enhanced with more pre-1907 records
NEWS 7 SEP 21 CA/CAplus fields enhanced with simultaneous left and right truncation
NEWS 8 SEP 25 CA(SM)/CAplus(SM) display of CA Lexicon enhanced
NEWS 9 SEP 25 CAS REGISTRY(SM) no longer includes Concord 3D coordinates
NEWS 10 SEP 25 CAS REGISTRY(SM) updated with amino acid codes for pyrrolysine
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NEWS 12 OCT 19 LOGOFF HOLD duration extended to 120 minutes
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NEWS 14 OCT 23 Option to turn off MARPAT highlighting enhancements available
NEWS 15 OCT 23 CAS Registry Number crossover limit increased to 300,000 in multiple databases
NEWS 16 OCT 23 The Derwent World Patents Index suite of databases on STN has been enhanced and reloaded
NEWS 17 OCT 30 CHEMLIST enhanced with new search and display field
NEWS 18 NOV 03 JAPIO enhanced with IPC 8 features and functionality
NEWS 19 NOV 10 CA/CAplus F-Term thesaurus enhanced
NEWS 20 NOV 10 STN Express with Discover! free maintenance release Version 8.01c now available
NEWS 21 NOV 13 CA/CAplus pre-1967 chemical substance index entries enhanced with preparation role
NEWS 22 NOV 20 CAS Registry Number crossover limit increased to 300,000 in additional databases
NEWS 23 NOV 20 CA/CAplus to MARPAT accession number crossover limit increased to 50,000
NEWS 24 NOV 20 CA/CAplus patent kind codes will be updated
NEWS 25 DEC 01 CAS REGISTRY updated with new ambiguity codes

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FULL ESTIMATED COST

| SINCE FILE ENTRY | TOTAL SESSION |
|------------------|---------------|
| 0.21 | 0.21 |

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=> s us 2004-0230057 /pn
L1 1 US 2004-0230057 /PN
(US2004230057/PN)

=> file reg
COST IN U.S. DOLLARS
FULL ESTIMATED COST

| SINCE FILE ENTRY | TOTAL SESSION |
|------------------|---------------|
| 2.41 | 2.62 |

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STRUCTURE FILE UPDATES: 8 DEC 2006 HIGHEST RN 915121-42-5
DICTIONARY FILE UPDATES: 8 DEC 2006 HIGHEST RN 915121-42-5

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=> tra rn l1
L2 TRANSFER L1 1- RN : 16 TERMS
L3 16 L2

=> d scan

L3 16 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Quinolinium, 4-[3-(1-butyl-5-chloro-1,3-dihydro-3,3-dimethyl-2H-indol-2-

ylidene)-1-propenyl]-1-ethyl-, hexafluorophosphate(1-) (9CI)
MF C28 H32 Cl N2 . F6 P

CM 1

/ Structure 1 in file .gra /

CM 2

/ Structure 2 in file .gra /

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 16 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Quinolinium, 4-[3-(1-butyl-5-chloro-1,3-dihydro-3,3-dimethyl-2H-indol-2-ylidene)-1-propenyl]-1-ethyl-, perchlorate (9CI)
MF C28 H32 Cl N2 . Cl O4

CM 1

/ Structure 3 in file .gra /

CM 2

/ Structure 4 in file .gra /

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 16 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Quinolinium, 1-butyl-2-[3-(3-butyl-1,3-dihydro-1,1-dimethyl-2H-benz[e]indol-2-ylidene)-1-propenyl]-, perchlorate (9CI)
MF C34 H39 N2 . Cl O4

CM 1

/ Structure 5 in file .gra /

CM 2

/ Structure 6 in file .gra /

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 16 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Silver alloy, nonbase, Ag,Ti (9CI)
MF Ag . Ti
CI AYS

Component

=====

Ag
Ti

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 16 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN
IN Gold (8CI, 9CI)
MF Au
CI COM

/ Structure 7 in file .gra /

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 16 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN

IN Aluminum (8CI, 9CI)

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT

MF Al

CI COM

/ Structure 8 in file .gra /

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 16 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN

IN Quinolinium, 4-[3-(1-butyl-1,3-dihydro-3,3-dimethyl-5-nitro-2H-indol-2-ylidene)-1-propenyl]-1-ethyl-, hexafluorophosphate(1-) (9CI)

MF C28 H32 N3 O2 . F6 P

CM 1

/ Structure 9 in file .gra /

CM 2

/ Structure 10 in file .gra /

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 16 ANSWERS REGISTRY COPYRIGHT 2006 ACS on STN

IN Quinolinium, 1-butyl-2-[3-(3-butyl-1,3-dihydro-1,1-dimethyl-2H-benz[e]indol-2-ylidene)-1-propenyl]-, hexafluorophosphate(1-) (9CI)

MF C34 H39 N2 . F6 P

CM 1

/ Structure 11 in file .gra /

CM 2

/ Structure 12 in file .gra /

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> s 13 and quinolin?

746351 QUINOLIN?

L4 8 L3 AND QUINOLIN?

=> file caplu

COST IN U.S. DOLLARS

FULL ESTIMATED COST

| SINCE FILE
ENTRY | TOTAL
SESSION |
|---------------------|------------------|
| 5.64 | 20.01 |

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FILE LAST UPDATED: 8 Dec 2006 (20061208/ED)

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| => file caplus | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| COST IN U.S. DOLLARS | | |
| FULL ESTIMATED COST | 0.46 | 20.47 |

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=> s 14
L5 2 L4
=> d all 1-2

L5 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:618741 CAPLUS <<LOGINID::20061209>>
DN 143:195246
ED Entered STN: 18 Jul 2005
TI Dyes for optical recording medium
IN Guo, Chaonan; Jiang, Songgui
PA Laide Science & Technology Co., Ltd., Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, No pp. given
CODEN: CNXXEV
DT Patent
LA Chinese
IC ICM C09B057-00
ICS G11B007-24
CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic

Sensitizers)

Section cross-reference(s) : 74

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------|------|----------|-----------------|----------|
| PI CN 1552768 | A | 20041208 | CN 2003-140813 | 20030604 |
| PRAI CN 2003-140813 | | 20030604 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|------------|--|------------------------------------|
| CN 1552768 | ICM C09B057-00
ICS G11B007-24
IPCI C09B0057-00 [ICM,7]; G11B0007-24 [ICS,7]
IPCR C09B0057-00 [I,C*]; C09B0057-00 [I,A]; G11B0007-24 [I,C*]; G11B0007-24 [I,A] | |

OS MARPAT 143:195246

GI

/ Structure 13 in file .gra /

AB The dye I and II (A = arom. or polycyclic arom. carbonyl; B 1 = H, OH, alkoxy, halogen, nitro, nitroso, (un)substituted amino, (un)substituted sulfanilamido; R1, R2 = (un)substituted linear or branched alkyl, alkenyl, aralkyl, alkoxy-carboxyl, alkoxy-carbonyl, alkoxy, alkylhydroxy, alkylamino, alkylcarbamoyl, alkylsulfamoyl, alkylalkoxy, alkylhalo, alkylsulfonyl or alkylcarboxy; X- = anion) is useful for optical recording medium.

ST optical recording medium dye

IT Dyes

Optical recording materials

(dyes for optical recording medium)

IT Cycloalkenes

RL: TEM (Technical or engineered material use); USES (Uses)
(polymers, substrate; dyes for optical recording medium)

IT Polycarbonates, uses

Polyesters, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(substrates; dyes for optical recording medium)

IT 7429-90-5, Aluminum, uses 7440-21-3, Silicon, uses 7440-22-4, Silver,
uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses 11144-43-7,
Silver alloys, copper 37263-66-4, Silver alloys, titanium- 50950-97-5,
Silver alloys, chromium-

RL: TEM (Technical or engineered material use); USES (Uses)
(antireflection layer; dyes for optical recording medium)

IT ***794518-86-8*** ***794518-88-0*** ***794518-89-1***
794518-91-5 ***794518-93-7*** ***794518-97-1***

794518-98-2 862014-00-4

RL: TEM (Technical or engineered material use); USES (Uses)
(dyes for optical recording medium)

IT 9011-14-7, PMMA

RL: TEM (Technical or engineered material use); USES (Uses)
(substrates; dyes for optical recording medium)

L5 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:995803 CAPLUS <<LOGINID::20061209>>

DN 141:425348

ED Entered STN: 19 Nov 2004

TI Dye and optical recording medium

IN Kuo, Chao-Nan; Chiang, Sung-Kuei

PA Taiwan

SO U.S. Pat. Appl. Publ., 13 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM C07D209-56

ICS G11B007-24; C07D453-02

INCL 546134000; 430270180; 546135000; 548427000; 548469000

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic
Sensitizers)

Section cross-reference(s) : 74

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------|------|----------|------------------|----------|
| PI | US 2004230057 | A1 | 20041118 | US 2004-820600 | 20040407 |
| | TW 244494 | B1 | 20051201 | TW 2003-92113053 | 20030514 |
| PRAI | TW 2003-92113053 | A | 20030514 | | |

CLASS

| | PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|----|------------|-------|---|
| US | 2004230057 | ICM | C07D209-56 |
| | | ICS | G11B007-24; C07D453-02 |
| | | INCL | 546134000; 430270180; 546135000; 548427000; 548469000 |
| | | IPCI | C07D0209-56 [ICM,7]; C07D0209-00 [ICM,7,C*]; G11B0007-24 [ICS,7]; C07D0453-02 [ICS,7]; C07D0453-00 [ICS,7,C*] |
| | | IPCR | C07D0401-00 [I,C*]; C07D0401-06 [I,A]; G11B0007-24 [I,C*]; G11B0007-24 [N,A]; G11B0007-247 [I,A] |
| | | NCL | 546/134.000; 430/270.180; 546/135.000; 548/427.000; 548/469.000 |
| | | ECLA | C07D401/06+215+209 |
| TW | 244494 | IPCI | C09B0025-00 [ICS,7] |
| | | IPCR | C07D0401-00 [I,C*]; G11B0007-24 [I,C*]; C07D0401-06 [I,A]; G11B0007-24 [N,A]; G11B0007-247 [I,A] |

OS MARPAT 141:425348

GI

/ Structure 14 in file .gra /

AB An optical recording medium dye has the structure I where A is an arom. group or a polycyclic arom. group; B1 = H, OH, alkyloxy, halogen, NO₂, nitroso, a substituted and unsubstituted amine group, a substituted or unsubstituted sulfamoyl; R₁, R₂ = substituted or unsubstituted, straight chain or branched alkyl, alkenyl, aralkyl, alkoxy carbonyl, alkoxy carboxyl, alkoxyl, alkyl hydroxyl, alkylamino, alkyl carbamoyl, alkylsulfamoyl, alkylalkoxyl, alkyl halide, alkylsulfonyl or alkylcarboxyl; and X- is anion.

ST optical recording medium photo dye

IT Dyes

Optical recording materials

(dye optical and thermal property required for optical recording medium)

IT Cycloalkenes

RL: TEM (Technical or engineered material use); USES (Uses)
(polymers, substrate; dye optical and thermal property required for optical recording medium)

IT Polycarbonates, uses

Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; dye optical and thermal property required for optical recording medium)

IT 7429-90-5, Aluminum, uses 7440-22-4, Silver, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses 11144-43-7 37263-66-4 50950-97-5

RL: TEM (Technical or engineered material use); USES (Uses)
(antireflection layer; dye optical and thermal property required for optical recording medium)IT ***794518-86-8*** ***794518-88-0*** ***794518-89-1***
794518-91-5 ***794518-93-7*** ***794518-95-9***
794518-97-1 ***794518-98-2***RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dye optical and thermal property required for optical recording medium)

IT 9011-14-7, Polymethyl methacrylate

RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; dye optical and thermal property required for optical recording medium)

=> d his

(FILE 'HOME' ENTERED AT 23:41:06 ON 09 DEC 2006)

FILE 'CAPLUS' ENTERED AT 23:41:19 ON 09 DEC 2006
L1 1 S US 2004-0230057 /PN

FILE 'REGISTRY' ENTERED AT 23:41:52 ON 09 DEC 2006

FILE 'CAPLUS' ENTERED AT 23:41:57 ON 09 DEC 2006
L2 TRA L1 1- RN : 16 TERMS

FILE 'REGISTRY' ENTERED AT 23:41:57 ON 09 DEC 2006

L3 16 SEA L2

L4 8 S L3 AND QUINOLIN?

FILE 'CAPLUS' ENTERED AT 23:43:05 ON 09 DEC 2006

FILE 'CAPLUS' ENTERED AT 23:43:13 ON 09 DEC 2006

L5 2 S L4.

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|--|------------------|---------------|
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| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
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NEWS 8 SEP 25 CA(SM)/CAplus(SM) display of CA Lexicon enhanced
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NEWS 10 SEP 25 CAS REGISTRY(SM) updated with amino acid codes for pyrrolysine
NEWS 11 SEP 28 CEABA-VTB classification code fields reloaded with new classification scheme
NEWS 12 OCT 19 LOGOFF HOLD duration extended to 120 minutes
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NEWS 16 OCT 23 The Derwent World Patents Index suite of databases on STN has been enhanced and reloaded
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NEWS 18 NOV 03 JAPIO enhanced with IPC 8 features and functionality
NEWS 19 NOV 10 CA/CAplus F-Term thesaurus enhanced
NEWS 20 NOV 10 STN Express with Discover! free maintenance release Version

8.01c now available
NEWS 21 NOV 13 CA/CAPLUS pre-1967 chemical substance index entries enhanced with preparation role
NEWS 22 NOV 20 CAS Registry Number crossover limit increased to 300,000 in additional databases
NEWS 23 NOV 20 CA/CAPLUS to MARPAT accession number crossover limit increased to 50,000
NEWS 24 NOV 20 CA/CAPLUS patent kind codes will be updated
NEWS 25 DEC 01 CAS REGISTRY updated with new ambiguity codes

NEWS EXPRESS NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

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|------------|---|
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| NEWS LOGIN | Welcome Banner and News Items |
| NEWS IPC8 | For general information regarding STN implementation of IPC 8 |
| NEWS X25 | X.25 communication option no longer available |

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STRUCTURE FILE UPDATES: 10 DEC 2006 HIGHEST RN 915124-84-4
DICTIONARY FILE UPDATES: 10 DEC 2006 HIGHEST RN 915124-84-4

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Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/reqprops.html>

=> s quinolinium and indol(5w)ylidene and propenyl

33555 QUINOLINIUM

450603 INDOL

790140 YLIDENE

54339 INDOL (5W) YLIDENE

835652 PRO PENYI

248 QUINOLINTINUM AND INDOL(5W)YLIDENE AND PROPENYL

218

=> file caplus
COST IN U.S. DOLLARS

SINCE FILE TOTAL

FULL ESTIMATED COST

ENTRY
19.92
SESSION
20.13

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FILE LAST UPDATED: 10 Dec 2006 (20061210/ED)

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<http://www.cas.org/infopolicy.html>

=> s 11
L2 67 L1

=> s (optical or laser or information) and 12
921106 OPTICAL
21 OPTICALS
921115 OPTICAL
(OPTICAL OR OPTICALS)
541625 LASER
166010 LASERS
555530 LASER
(LASER OR LASERS)
430163 INFORMATION
3151 INFORMATIONS
432678 INFORMATION
(INFORMATION OR INFORMATIONS)
L3 8 (OPTICAL OR LASER OR INFORMATION) AND L2

=> d all 1-8

L3 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:618741 CAPLUS <<LOGINID::20061211>>
DN 143:195246
ED Entered STN: 18 Jul 2005
TI Dyes for ***optical*** recording medium
IN Guo, Chaonan; Jiang, Songgui
PA Laide Science & Technology Co., Ltd., Peop. Rep. China
SO Faming Zhuanli Shengqing Gongkai Shuomingshu, No pp.. given
CODEN: CNXXEV
DT Patent
LA Chinese
IC ICM C09B057-00
ICS G11B007-24
CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 74
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------|-------|------------------------------------|-----------------|----------|
| PI CN 1552768 | A | 20041208 | CN 2003-140813 | 20030604 |
| PRAI CN 2003-140813 | | | 20030604 | |
| CLASS | | | | |
| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES | | |
| CN 1552768 | ICM | C09B057-00 | | |

ICS G11B007-24
IPCI C09B0057-00 [ICM, 7]; G11B0007-24 [ICS, 7]
IPCR C09B0057-00 [I, C*]; C09B0057-00 [I, A]; G11B0007-24
[I, C*]; G11B0007-24 [I, A]

OS MARPAT 143:195246

GI

/ Structure 15 in file .gra /

AB The dye I and II (A = arom. or polycyclic arom. carbonyl; B 1 = H, OH, alkoxy, halogen, nitro, nitroso, (un)substituted amino, (un)substituted sulfanilamido; R1, R2 = (un)substituted linear or branched alkyl, alkenyl, aralkyl, alkoxy-carboxyl, alkoxy-carbonyl, alkoxy, alkylhydroxy, alkylamino, alkylcarbamoyl, alkylsulfamoyl, alkylalkoxy, alkylhalo, alkylsulfonyl or alkylcarboxy; X- = anion) is useful for ***optical*** recording medium.

ST ***optical*** recording medium dye

IT Dyes

 Optical recording materials
 (dyes for ***optical*** recording medium)

IT Cycloalkenes

RL: TEM (Technical or engineered material use); USES (Uses)
 (polymers, substrate; dyes for ***optical*** recording medium)

IT Polycarbonates, uses

Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
 (substrates; dyes for ***optical*** recording medium)

IT 7429-90-5, Aluminum, uses 7440-21-3, Silicon, uses 7440-22-4, Silver,
uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses 11144-43-7,
Silver alloys, copper 37263-66-4, Silver alloys, titanium- 50950-97-5,
Silver alloys, chromium-

RL: TEM (Technical or engineered material use); USES (Uses)
 (antireflection layer; dyes for ***optical*** recording medium)

IT ***794518-86-8*** ***794518-88-0*** ***794518-89-1***
794518-91-5 ***794518-93-7*** ***794518-97-1***
794518-98-2 ***862014-00-4***

RL: TEM (Technical or engineered material use); USES (Uses)
 (dyes for ***optical*** recording medium)

IT 9011-14-7, PMMA

RL: TEM (Technical or engineered material use); USES (Uses)
 (substrates; dyes for ***optical*** recording medium)

L3 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:995803 CAPLUS <<LOGINID::20061211>>

DN 141:425348

ED Entered STN: 19 Nov 2004

TI Dye and ***optical*** recording medium

IN Kuo, Chao-Nan; Chiang, Sung-Kuei

PA Taiwan

SO U.S. Pat. Appl. Publ., 13 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM C07D209-56

 ICS G11B007-24; C07D453-02

INCL 546134000; 430270180; 546135000; 548427000; 548469000

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic
Sensitizers)

Section cross-reference(s): 74

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------|------|----------|------------------|----------|
| PI | US 2004230057 | A1 | 20041118 | US 2004-820600 | 20040407 |
| | TW 244494 | B1 | 20051201 | TW 2003-92113053 | 20030514 |
| PRAI | TW 2003-92113053 | A | 20030514 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---------------|-------|------------------------------------|
| US 2004230057 | ICM | C07D209-56 |
| | ICS | G11B007-24; C07D453-02 |

INCL 546134000; 430270180; 546135000; 548427000; 548469000
IPCI C07D0209-56 [ICM,7]; C07D0209-00 [ICM,7,C*];
G11B0007-24 [ICS,7]; C07D0453-02 [ICS,7]; C07D0453-00
[ICS,7,C*]
IPCR C07D0401-00 [I,C*]; C07D0401-06 [I,A]; G11B0007-24
[I,C*]; G11B0007-24 [N,A]; G11B0007-247 [I,A]
NCL 546/134.000; 430/270.180; 546/135.000; 548/427.000;
548/469.000
ECLA C07D401/06+215+209
TW 244494 IPCI C09B0025-00 [ICS,7]
IPCR C07D0401-00 [I,C*]; G11B0007-24 [I,C*]; C07D0401-06
[I,A]; G11B0007-24 [N,A]; G11B0007-247 [I,A]

OS MARPAT 141:425348

GI

/ Structure 16 in file .gra /

AB An ***optical*** recording medium dye has the structure I where A is an arom. group or a polycyclic arom. group; B1 = H, OH, alkyloxy, halogen, NO₂, nitroso, a substituted and unsubstituted amine group, a substituted or unsubstituted sulfamoyl; R1, R2 = substituted or unsubstituted, straight chain or branched alkyl, alkenyl, aralkyl, alkoxy carbonyl, alkoxy carboxyl, alkoxy, alkyl hydroxyl, alkylamino, alkylcarbamoyl, alkylsulfamoyl, alkylalkoxy, alkyl halide, alkylsulfonyl or alkylcarboxyl; and X- is anion.

ST ***optical*** recording medium photo dye

IT Dyes

Optical recording materials
(dye ***optical*** and thermal property required for
optical recording medium)

IT Cycloalkenes

RL: TEM (Technical or engineered material use); USES (Uses)
(polymers, substrate; dye ***optical*** and thermal property
required for ***optical*** recording medium)

IT Polycarbonates, uses

Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; dye ***optical*** and thermal property required for
optical recording medium)

IT 7429-90-5, Aluminum, uses 7440-22-4, Silver, uses 7440-50-8, Copper,
uses 7440-57-5, Gold, uses 11144-43-7 37263-66-4 50950-97-5

RL: TEM (Technical or engineered material use); USES (Uses)
(antireflection layer; dye ***optical*** and thermal property
required for ***optical*** recording medium)

IT ***794518-86-8*** ***794518-88-0*** ***794518-89-1***
794518-91-5 ***794518-93-7*** ***794518-95-9***
794518-97-1 ***794518-98-2***

RL: PRP (Properties); TEM (Technical or engineered material use); USES
(Uses)
(dye ***optical*** and thermal property required for
optical recording medium)

IT 9011-14-7, Polymethyl methacrylate

RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; dye ***optical*** and thermal property required for
optical recording medium)

L3 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:485828 CAPLUS <<LOGINID::20061211>>

DN 141:39728

ED Entered STN: 17 Jun 2004

TI Hydrophilic fluorescent marker dyes based on benzopyrrolo-polymethines

IN Czerney, Peter; Schweder, Bernd; Wenzel, Matthias; Frank, Wilhelm

PA Dyomics GmbH, Germany

SO Eur. Pat. Appl., 24 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM C09B023-02

ICS G01N033-533; G01N033-58

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic

Sensitizers)

Section cross-reference(s) : 9

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|------------------|----------|
| PI | EP 1428858 | A1 | 20040616 | EP 2003-28306 | 20031209 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | | |
| | DE 10258150 | A1 | 20040708 | DE 2002-10258150 | 20021210 |
| | US 2004162423 | A1 | 20040819 | US 2003-732928 | 20031210 |
| | US 6924372 | B2 | 20050802 | | |
| PRAI | DE 2002-10258150 | A | 20021210 | | |

CLASS

| | PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|--|---------------|-------|---|
| | EP 1428858 | ICM | C09B023-02 |
| | | ICS | G01N033-533; G01N033-58 |
| | | IPCI | C09B0023-02 [ICM,7]; C09B0023-00 [ICM,7,C*];
G01N0033-533 [ICS,7]; G01N0033-58 [ICS,7] |
| | | IPCR | C09B0023-00 [I,C*]; C09B0023-02 [I,A]; G01N0033-533
[I,C*]; G01N0033-533 [I,A] |
| | | ECLA | C09B023/02; G01N033/533 |
| | DE 10258150 | IPCI | C09B0023-12 [ICM,7]; C09B0023-00 [ICM,7,C*];
A61K0049-00 [ICS,7]; C12Q0001-68 [ICS,7] |
| | | IPCR | C09B0023-00 [I,C*]; C09B0023-02 [I,A]; G01N0033-533
[I,C*]; G01N0033-533 [I,A] |
| | | ECLA | C09B023/02; G01N033/533 |
| | US 2004162423 | IPCI | C08B0037-16 [ICM,7]; C08B0037-00 [ICM,7,C*];
C07D0405-14 [ICS,7]; C07D0405-00 [ICS,7,C*] |
| | | IPCR | C09B0023-00 [I,C*]; C09B0023-02 [I,A]; G01N0033-533
[I,A]; G01N0033-533 [I,C*] |
| | | NCL | 536/046.000; 546/277.400; 548/414.000; 548/454.000 |
| | | ECLA | C09B023/02; G01N033/533 |

OS MARPAT 141:39728

GI

/ Structure 17 in file .gra /

AB The title dyes [I and II; R1-R14 = H, alkyl, tert-alkyl, (carboxy)aryl, (hetero)cycloalkyl, alkoxy, OH, NO₂, cyano, etc; R1R2, R2R3, R3R4, R5R7, R9R10, R11R12, R12R13 can form (hetero)aliph. or arom. ring; .gtoreq.1 of R1-R14 can contain solubilizing or ionizable or ionized substituent(s); .gtoreq.1 R1-R14 can contain reactive groups for covalent bonding to substrates; n = 0, 1-3; provisos are given] having improved hydrophilicity, increased extinction coeffs. and photo- and storage stability are useful for ***optical*** marking and detn. of amino acids, proteins, antibodies, nucleic acids, DNA, RNA, polymers, drugs, etc. For example, adding 75 .mu.L HC(OMe)₃ in 1 mL pyridine to a soln. of 180 mg 2-tert-butyl-7-diethylamino-4-methylchromenylium tetrafluoroborate and 242 mg 3-(3-ethoxycarbonylpropyl)-2,3-dimethyl-5-sulfonato-1-(3-sulfonatopropyl)-3H-indolium Na salt in 50 mL Ac2O, stirring the mixt. for 30 min at 140.degree., evapg. the reaction mixt., refluxing the solid residue in a mixt. of 10 mL acetone and 10 mL of 2 M HCl and neutralizing with NaHCO₃ gave 145 mg of carboxypropyl-functional polymethine dye [II; R1 = R4 = R5 = R7 = R8 = R9 = R12 = R13 = H, R2 = R3 = Et, R6 = Me₃C, R10 = O₃S(CH₂)₃, R11 = SO₃, R14 = Me, n = 1] as Na salt. This (15 mg) was converted to active ester with 4 mg N-hydroxysuccinimide in the presence of 14 mg dicyclohexyl carbodiimide and used to prep. a streptavidin conjugate showing narrowed aggregation bands in UV-Vis spectrum.

ST hydrophilic benzopyrylopolymethine fluorescent marker dye prepn;
streptavidin conjugate benzopyrylopolymethine fluorescent marker dye

IT Cell
Drugs

Fluorescent dyes

(hydrophilic fluorescent marker dyes based on benzopyrylo-polymethines)

IT Amino acids, biological studies
Antibodies and Immunoglobulins
DNA

Lipids, biological studies

Nucleic acids

Proteins

RNA

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(hydrophilic fluorescent marker dyes based on benzopyrylo-polymethines)

IT Polymers, biological studies

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(oligomeric; hydrophilic fluorescent marker dyes based on
benzopyrylo-polymethines)

IT 149-73-5, Trimethyl orthoformate 4485-89-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation with chromenylium and indolium salts; hydrophilic
fluorescent marker dyes based on benzopyrylo-polymethines)

IT 704891-92-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation with chromenylium salt and tri-Me orthoformate;
hydrophilic fluorescent marker dyes based on benzopyrylo-polymethines)

IT 145821-07-4 153364-00-2 482379-39-5 704891-94-1 704891-96-3

704891-98-5 704892-00-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation with indolium salt and tri-Me orthoformate; hydrophilic
fluorescent marker dyes based on benzopyrylo-polymethines)

IT 6066-82-6, N-Hydroxysuccinimide

RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of benzopyrylo-polymethines; hydrophilic fluorescent
marker dyes based on benzopyrylo-polymethines)

IT 9013-20-1D, Streptavidin, conjugate with benzopyrylo-polymethine deriv.

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)

(hydrophilic fluorescent marker dyes based on benzopyrylo-polymethines)

IT 704891-70-3P 704891-72-5P ***704891-75-8P*** 704891-77-0P

704891-81-6P 704891-83-8P 704891-85-0P 704891-87-2P 704891-89-4P

704891-91-8P ***890317-41-6P***

RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); BIOL
(Biological study); PREP (Preparation); USES (Uses)
(hydrophilic fluorescent marker dyes based on benzopyrylo-polymethines)

IT 704891-69-0P 704891-71-4P ***704891-74-7P*** 704891-76-9P

704891-78-1P 704891-80-5P 704891-82-7P 704891-84-9P

704891-86-1P 704891-88-3P 704891-90-7P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)

(prepn. and esterification with N-hydroxysuccinimide; hydrophilic
fluorescent marker dyes based on benzopyrylo-polymethines)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Czerney, P; WO 0053678 A 2000 CAPLUS

(2) Czerney, P; WO 0190253 A 2001 CAPLUS

L3 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:118681 CAPLUS <<LOGINID::20061211>>

DN 122:92949

ED Entered STN: 08 Nov 1994

TI ***Optical*** recording medium containing cyanine dye

IN Yoshizawa, Atsushi; Araki, Yasushi; Matsui, Fumio; Yokoyama, Yoshe; Jinho,
Akira; Okazaki, Yasuki

PA Pioneer Electronic Corp, Japan; Nippon Kanko Shikiso Kenkyusho

SO Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B41M005-26

ICS C09B027-00; G11B007-24; G11C013-04

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reproductive Processes)

Section cross-reference(s): 27

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------|------|----------|-----------------|----------|
| JP 06199045 | A2 | 19940719 | JP 1993-2139 | 19930108 |
| PRAI JP 1993-2139 | | 19930108 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|-------|--|
| JP 06199045 | ICM | B41M005-26 |
| | ICS | C09B027-00; G11B007-24; G11C013-04 |
| | IPCI | B41M0005-26 [ICM,5]; C09B0027-00 [ICS,5]; G11B0007-24 [ICS,5]; G11C0013-04 [ICS,5] |

OS MARPAT 122:92949

GI For diagram(s), see printed CA Issue.

AB The medium comprises a transparent substrate coated with a recording film contg. a cyanine dye I, II, III, or IV (R1-2 = alkyl, aryl, alkoxy; W1-2 = halo, H, substituent such as alkyl, alkoxy, aryl, alkoxy carbonyl, sulfonylalkyl, CN; Y = halo, H, substituent such as alkyl; X- = counter ion such as I-, Br-, ClO4-, BF4-, PF6-, SbF6-, MeSO4-, MeC6H4SO3-; n = 0-2). The medium showed good sensitivity and reflection to short wave (.apprxeq.680 nm) ***laser*** .

ST ***optical*** recording org cyanine dye

IT Recording materials

(***optical*** , ***optical*** recording material contg. cyanine dye)

IT 18371-31-8 134984-32-0 139265-68-2 159461-89-9 159461-90-2

159461-91-3 159461-93-5

RL: DEV (Device component use); USES (Uses)

(***optical*** recording material contg. cyanine dye)

L3 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1990:66671 CAPLUS <>LOGINID::20061211>>

DN 112:66671

ED Entered STN: 17 Feb 1990

TI Photosensitive composition for electrophotographic photoconductors and ***optical*** recording media

IN Kato, Eiichi; Ishii, Kazuo

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 24 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03G005-06

ICS B41M005-26; C09B023-00

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------|------|----------|-----------------|----------|
| PI JP 01126655 | A2 | 19890518 | JP 1987-284449 | 19871111 |
| PRAI JP 1987-284449 | | 19871111 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|-------|---|
| JP 01126655 | ICM | G03G005-06 |
| | ICS | B41M005-26; C09B023-00 |
| | IPCI | G03G0005-06 [ICM,4]; B41M0005-26 [ICS,4]; C09B0023-00 [ICS,4] |

GI

/ Structure 18 in file .gra /

AB The title photosensitive compn. contains I and/or II [Z, Z1 = O, S, Se, Te, hydrocarbylimino; X, X1 = a group of atoms necessary to form a pyran, benzopyran, naphthopyran, thiopyran, 5- or 6-membered N heterocycle; Y1-Y4 = H or an aliph. or arom. group; R, R3 = H, an aliph. group; R1, R2, R4, R5 = H or an aliph. or arom. group, R1R2, R4R5 together may form an aliph. or arom. ring; A1, A2 = an (substituted) arom. or heterocyclic group, III, IV (R6-R12 = H, halo, a monovalent org. radical); L1-L4 = a methine group; m, n = 0, 1; p, q = 0-2; Q1, Q2 = an anion; r = 1, 2; the compd. may form an inert salt when r = 1]. Electrophotog. photoconductors or ***optical*** recording media contg. I and/or II show high sensitivity to .gtoreq.750 nm ***laser*** beams and an improved signal-to-noise ratio.

ST electrophotog. photoconductor thiopyrylium salt; ***optical*** recording thiopyrylium salt; photosensitive compn thiopyrylium salt;

thiopyrylium salt photosensitizer electrophotog

IT Electrophotographic photoconductors

(photosensitive compns. contg. thiopyrylium dye for)

IT Electrophotographic sensitizers

(thiopyrylium dyes as)

IT Recording materials

(***optical*** , thiopyrylium dyes for)

IT 124795-65-9 124795-67-1 124795-69-3 124795-71-7 124795-73-9

124795-75-1 124795-77-3 124795-79-5 124795-81-9 124795-83-1

124795-84-2 124795-86-4 124795-88-6 124795-89-7 124795-91-1

124795-92-2 124795-94-4 ***124795-95-5*** 124795-96-6

124795-98-8 124796-00-5 124796-02-7 124796-04-9 124796-05-0

124796-07-2 124796-09-4 124796-11-8 124796-12-9 124796-13-0

124796-14-1 124796-16-3 124796-18-5 124796-20-9 124796-21-0

124796-23-2 124796-25-4 124796-26-5 124848-76-6 124848-77-7

124848-78-8 124848-80-2

RL: USES (Uses)

(photosensitive compns. contg., for electrophotog. photoconductors and
optical recording media)

L3 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1986:415350 CAPLUS <<LOGINID::20061211>>

DN 105:15350

ED Entered STN: 13 Jul 1986

TI ***Optical*** recording medium

IN Namba, Kenryo; Asami, Shigeru; Aoi, Toshiki; Takahashi, Kazuo; Kuroiwa, Akihiko

PA TDK Corp., Japan

SO PCT Int. Appl., 133 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM B41M005-26

ICS G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 41

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--------------------|------|----------|-----------------|----------|
| PI | WO 8505078 | A1 | 19851121 | WO 1985-JP253 | 19850502 |
| | W: US | | | | |
| | RW: DE, FR, GB, NL | | | | |
| | JP 60234886 | A2 | 19851121 | JP 1984-90748 | 19840507 |
| | JP 05026670 | B4 | 19930416 | | |
| | JP 60234892 | A2 | 19851121 | JP 1984-91567 | 19840508 |
| | JP 05032231 | B4 | 19930514 | | |
| | JP 61011292 | A2 | 19860118 | JP 1984-132702 | 19840627 |
| | EP 181941 | A1 | 19860528 | EP 1985-902157 | 19850502 |
| | EP 181941 | B1 | 19900124 | | |
| | R: DE, FR, GB, NL | | | | |
| | US 4713314 | A | 19871215 | US 1986-827928 | 19860204 |
| PRAI | JP 1984-90748 | A | 19840507 | | |
| | JP 1984-91567 | A | 19840508 | | |
| | JP 1984-132702 | A | 19840627 | | |
| | WO 1985-JP253 | W | 19850502 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|-------|---|
| WO 8505078 | ICM | B41M005-26 |
| | ICS | G11B007-24 |
| | IPCI | B41M005-26 [ICM,4]; G11B0007-24 [ICS,4] |
| | IPCR | G11B0007-24 [I,C*]; G11B0007-247 [I,A] |
| JP 60234886 | IPCI | B41M005-26 [ICM,4]; G11B0007-24 [ICS,4]; G11C0013-04 [ICS,4] |
| | IPCR | G11B0007-24 [I,C*]; G11B0007-247 [I,A] |
| JP 60234892 | IPCI | B41M005-26 [ICM,4]; C09B0023-00 [ICS,4]; G11B0007-24 [ICS,4]; G11C0013-04 [ICS,4] |
| | IPCR | G11B0007-24 [I,C*]; G11B0007-247 [I,A] |
| JP 61011292 | IPCI | B41M005-26 [ICM,4]; G03C0001-72 [ICS,4]; G11B0007-24 [ICS,4] |
| | IPCR | G11B0007-24 [I,C*]; G11B0007-247 [I,A] |

EP 181941 IPCI B41M0005-26 [ICM,4]; G11B0007-24 [ICS,4]
US 4713314 IPCR G11B0007-24 [I,C*]; G11B0007-247 [I,A]
IPCI G03C0001-72 [ICM,4]; G11B0007-24 [ICS,4]
IPCR G11B0007-24 [I,C*]; G11B0007-247 [I,A]
NCL 430/270.190; 346/135.100; 430/270.200; 430/270.210;
430/338.000; 430/346.000; 430/945.000; 430/964.000

AB Claimed ***optical*** recording materials contain a cyanine dye and a salt of a cyanine dye cation with a quencher anion. The recording materials give recorded disks with good durability (for repeated readout) and high readout signal/noise ratio.

ST ***laser*** recording disk cyanine dye; quencher cyanine dye salt

IT Recording materials

(***optical*** , ***laser*** -sensitive, contg. cyanine
dye-quencher salts)

IT 102723-18-2 102723-19-3 102723-20-6 102723-22-8 102723-24-0
102723-26-2 102723-28-4 ***102723-30-8*** 102723-31-9
102723-33-1 102779-19-1

RL: USES (Uses)

(***laser*** recording medium contg. cyanine dye and)

IT 16595-48-5 19764-96-6 22668-60-6 23178-67-8 93911-28-5
95264-78-1 96122-07-5 101703-26-8 101899-99-4 102604-91-1
102621-76-1 102643-64-1 102643-65-2 102678-44-4

RL: USES (Uses)

(***laser*** recording medium contg. quencher-cyanine dye ionic
assocn. compd. and)

IT 98970-23-1P 98970-24-2P 98970-26-4P 98970-27-5P 98970-34-4P
98970-35-5P 98970-37-7P 98970-38-8P 99032-42-5P 101176-87-8P
102644-00-8P 102644-01-9P 102644-02-0P 102644-03-1P 102648-56-6P

RL: PREP (Preparation)

(prepn. of, for use in ***laser*** recording medium)

IT 15492-42-9 19764-96-6 22668-60-6 23178-67-8 93793-45-4
93953-72-1 94140-35-9 95681-14-4 95973-56-1 95973-58-3
97178-64-8 97428-30-3 102567-12-4 102567-13-5 102567-14-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, photostabilized dye from, for ***laser*** recording
disks)

L3 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1983:18100 CAPLUS <<LOGINID::20061211>>

DN 98:18100

ED Entered STN: 12 May 1984

TI 2,3,3-Trimethyl-3H-pyrrolo[3,2-c]quinolines and polymethine dyes made of them

AU Mikhailenko, F. A.; Shevchuk, L. I.; Tolmacheva, V. S.; Babichev, F. S.

CS Kiev. Gos. Univ., Kiev, 252017, USSR

SO Khimiya Geterotsiklichesikh Soedinenii (1982), (7), 948-51

CODEN: KGSSAQ; ISSN: 0453-8234

DT Journal

LA Russian

CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 28, 73

OS CASREACT 98:18100

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Trimethylpyrroloquinolines (I; R = H, OMe), potentially useful in ***laser*** technol., were prep'd. by Fischer indolization of 3-methyl-2-butanone (4-quinolinyl)hydrazone [83958-36-5] and 3-methyl-2-butanone (3-methoxy-4-quinolinyl)hydrazone [83958-37-6] and were quaternized with Me₂SO₄. The quinoline N underwent quaternization. Reactions of quaternized I (counterions ClO₄⁻ or MeOSO₃⁻) with 2-(formylmethylene)-1,3,3-trimethylindoline [84-83-3] or AcOCH(OEt)₂ [14036-06-7] gave polymethine dyes II and III, resp., (R = H, OMe). Changes in the absorption spectra of II and III in solns. of different acidities were discussed.

ST pyrroloquinoline trimethyl prep'n quaternization; methylpyrroloquinoline prep'n quaternization; quaternization trimethylpyrroloquinoline;

polymethine dye trimethylpyrroloquinoline deriv; absorption spectrum
acidity polymethine dye; cyanine dye absorption spectrum acidity;
laser polymethine dye

IT Dyes, cyanine
(trimethine, pyrroloquinoline derivs., prepn. and absorption spectra
of)

IT ***Lasers***
(dye, polymethines for)

IT 83958-36-5P 83958-37-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and cyclization of)

IT 83958-38-7P 83958-39-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and quaternization with di-Me sulfate)

IT 83958-47-8P 83958-49-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and reactions of, with diethoxymethyl acetate and
(formylmethylene)trimethylindoline)

IT 83958-40-1P 83958-41-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT ***83958-43-4P*** ***83958-45-6P*** 83958-51-4P 83958-52-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., quaternization and visible spectra of)

IT 14036-06-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with tetramethylpyrroloquinolinium Me sulfates)

IT 84-83-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with tetramethylpyrroloquinolinium perchlorates)

L3 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1977:148784 CAPLUS <<LOGINID::20061211>>

DN 86:148784

ED Entered STN: 12 May 1984

TI Silver halide photographic emulsions for use with ***laser*** light
IN Habu, Teiji; Nakajima, Tomio; Mine, Kiyomitsu; Fujimori, Noboru; Sakamoto,
Eiichi

PA Konishiroku Photo Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC G03C001-18

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|----------|
| PI | JP 51115822 | A2 | 19761012 | JP 1975-40961 | 19750403 |
| | JP 55002611 | B4 | 19800121 | | |
| PRAI | JP 1975-40961 | A | 19750403 | | |

CLASS

| | PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|--|-------------|-------|---|
| | JP 51115822 | IC | G03C001-18 |
| | | IPCI | G03C0001-18; G03C0001-14 [C*] |
| | | IPCR | G03C0001-12 [I,C*]; G03C0001-12 [I,A]; G03C0001-14
[I,C*]; G03C0001-18 [I,A] |

GI For diagram(s), see printed CA Issue.

AB Ag halide photog. emulsions for use with ruby ***laser*** light (694.3 nm) are obtained by using a spectral sensitizing dye with the formula I [Z1 = atoms required to complete a 4-quinoline ring; Z2 = atoms required to complete a thiazole, benzothiazole, naphthothiazole, selenazole, benzoselenazole, naphthoselenazole, oxazole, benzoxazole, naphthooxazole, 3H-benzindole or 2-quinoline ring; R, R1 = lower alkyl; R2 = lower alkyl or aryl; R3 = H, lower alkyl or aryl; X- = anion; m, n, p = 1,2]. Thus, a Ag(Br, I) (AgI 1 mol %) emulsion prep'd. in the conventional manner was sensitized with the dye II 50 mg/mol Ag halide, coated on a pretreated cellulose triacetate support, dried, exposed for 10-5 s with a ruby ***laser*** through a neutral gray wedge and developed to give a

relative sensitivity of 115 vs. 100 when the film was exposed for 1 s with the red light from a W lamp with an interference filter.

ST ***laser*** sensitive photog emulsion; carbocyanine dye photog sensitizer
IT Photographic sensitizers
 (carbocyanine dyes as, for ruby ***laser*** -sensitive silver halide emulsions)
IT Photographic emulsions
 (ruby ***laser*** -sensitive, contg. carbocyanine dyes)
IT 20591-23-5 29704-16-3 51257-37-5 57752-49-5 62312-13-4
 62312-14-5 62312-15-6 62312-16-7 ***62312-17-8*** 62312-18-9
 62312-19-0 62312-20-3 62312-21-4 62312-22-5 62314-14-1
 62355-91-3
RL: TEM (Technical or engineered material use); USES (Uses)
 (photog. sensitizer, for ruby ***laser*** -sensitive silver halide emulsions)

=> d his

(FILE 'HOME' ENTERED AT 08:03:40 ON 11 DEC 2006)

FILE 'REGISTRY' ENTERED AT 08:03:48 ON 11 DEC 2006

L1 248 S QUINOLINIUM AND INDOL(5W)YLIDENE AND PROPENYL

FILE 'CAPLUS' ENTERED AT 08:04:53 ON 11 DEC 2006

L2 67 S L1

L3 8 S (OPTICAL OR LASER OR INFORMATION) AND L2

=> s l2 and photographic

94624 PHOTOGRAPHIC
5 PHOTOGRAPHICS
94629 PHOTOGRAPHIC
 (PHOTOGRAPHIC OR PHOTOGRAPHICS)
72235 PHOTOG
137 PHOTOGS
72338 PHOTOG
 (PHOTOG OR PHOTOGS)
112049 PHOTOGRAPHIC
 (PHOTOGRAPHIC OR PHOTOG)

L4 9 L2 AND PHOTOGRAPHIC

=> d all 1-19

L4 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1987:524468 CAPLUS <<LOGINID::20061211>>

DN 107:124468

ED Entered STN: 05 Oct 1987

TI Silver halide ***photographic*** photosensitive materials

IN Takahashi, Nensho; Kunieda, Sunao; Kagawa, Nobuaki; Kamitakahara, Atsushi

PA Konishiroku Photo Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 28 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C001-28

 ICS C07D421-06

ICI C07D421-06, C07D277-00, C07D293-00; C07D421-06, C07D263-00, C07D293-00

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------|-------|----------|-----------------|----------|
| ----- | ----- | ----- | ----- | ----- |
| PI JP 61282834 | A2 | 19861213 | JP 1985-124958 | 19850608 |
| PRAI JP 1985-124958 | | 19850608 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|---|------------------------------------|
| ----- | ----- | ----- |
| JP 61282834 | ICM G03C001-28 | |
| | ICS C07D421-06 | |
| | ICI C07D421-06, C07D277-00, C07D293-00; C07D421-06, | |
| | C07D263-00, C07D293-00 | |

IPCI G03C0001-28 [ICM, 4]; G03C0001-08 [ICM, 4, C*];
 C07D0421-06 [ICS, 4]; C07D0421-06 [ICI, 4]; C07D0277-00
 [ICI, 4]; C07D0293-00 [ICI, 4]; C07D0421-06 [ICI, 4];
 C07D0421-00 [ICI, 4, C*]; C07D0263-00 [ICI, 4];
 C07D0293-00 [ICI, 4]

IPCR G03C0001-08 [I, C*]; G03C0001-29 [I, A]

GI For diagram(s), see printed CA Issue.

AB The claimed ***photog*** materials contain .gtoreq.1 emulsion layers which are spectrally super-sensitized by using a dye I [Z1, Z2 = pyrroline, pyridine, indolenine, benzimidazole, oxazole; benzoxazole, naphthoxazole, thiazoline, thiazole, benzothiazole, naphthothiazole, selenazole, benzoselenazole, or naphthoselenazole ring; R1, R2 = aliph. moiety with/without O or S linkage(s); .gtoreq.1 of R1 and R2 is substituted with OH, CO2H, or SO3H group; X- = anion; n = 0, 1] together with a tellurazole deriv. dye. The tellurazole dye is selected from II and III [R3, R4 = H, substituent; .gtoreq.1 of R3, R4 = alkyl, aryl; R5, R11 = quaternary group; R6, R10 = H, alkyl, aralkyl, aryl, heterocycl, amino, CN, alkylthio, arylthio, alkoxy, aryloxy; R7-R9 = halo, acidic ring, R6; R12-R14 = H, alkyl, aralkyl, aryl, alkylthio, cyano, arylthio, alkoxy, aryloxy; Q = heterocycle; Y- = anion; E = acidic ring; R3R4, R4R5, R5R6, R6R10, R7R9, R10R11, and R12R14 combinations may form rings; m, p, s = 0, 1; r = 0, pos. integer detd. by the charge; g = 0, 1, 2].

ST supersensitization silver halide ***photog*** emulsion; dye sensitizer tellurazole deriv; cyanine dye ***photog*** sensitizer

IT 60760-43-2

RL: USES (Uses)

(cyanine dye-tellurazole deriv. dye mixts. as)

IT 55425-23-5 60760-37-4 60760-38-5 60760-40-9 60760-43-2
 60760-44-3 60760-50-1 108465-44-7 109057-17-2 110208-04-3
 110208-05-4 110208-06-5 110208-08-7 110208-09-8 ***110208-10-1***
 110208-11-2 110208-12-3 110208-13-4 110208-14-5 110208-15-6
 110225-55-3

RL: USES (Uses)

(***photog*** . supersensitizer compns. contg.)

IT 102365-43-5P 108286-34-6P 108410-79-3P 108464-92-2P 108464-93-3P
 108464-94-4P 108465-25-4P 108465-26-5P 108497-53-6P 108497-55-8P
 109625-28-7P 110208-03-2P

RL: PREP (Preparation)

(prepn. of, as ***photog*** . sensitizer dye)

IT 78-59-1, Isophorone 122-51-0 333-27-7 622-15-1, Diphenylformamidine 5718-83-2 55425-51-9 70867-59-3 75504-95-9 97425-67-7,
 2,3,5-Trimethylbenzotellurazolium trifluoromethanesulfonate 108285-75-2
 108285-76-3 108286-35-7, 3-(5-Chloro-2-(2-methylthio-1-propenyl)-3-
 benzothiazole)propane sulfonate inner salt 108465-18-5 108465-20-9
 108465-21-0 108465-40-3 108465-41-4 108465-42-5 108465-43-6,
 5-Fluoro-2-methylbenzotellurazole 108497-54-7 108497-78-5
 108497-86-5 108497-87-6 110126-58-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, ***photog*** . sensitizer dye from)

L4 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1979:440912 CAPLUS <<LOGINID::20061211>>

DN 91:40912

ED Entered STN: 12 May 1984

TI Spectral sensitizing dyes

IN Ezekiel, Arron David; Ficken, Geoffrey Ernest; Steiger, Rolf; Reber, Jean Francois

PA Ciba-Geigy A.-G., Switz.

SO Brit., 26 pp. Division of Brit. 1,529,201.

CODEN: BRXXAA

DT Patent

LA English

IC C09B023-00; C09B023-02; C09B023-04; C09B023-06

CC 40-12 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 Section cross-reference(s): 28

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | GB 1529202 | A | 19781018 | GB 1977-38692 | 19760220 |
| | GB 1529201 | A | 19781018 | GB 1975-11187 | 19760220 |
| | BE 839641 | A1 | 19760917 | BE 1976-165229 | 19760317 |
| | US 4138551 | A | 19790206 | US 1977-781383 | 19770325 |

PRAI GB 1975-11187 A 19750318
 CH 1975-4847 A 19750416
 CH 1976-2100 A 19760220
 US 1976-665981 A3 19760311

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|------------|-------|---|
| GB 1529202 | IC | C09B023-00; C09B023-02; C09B023-04; C09B023-06 |
| | IPCI | C09B0023-12; C09B0023-00; C09B0023-02; C09B0023-04;
C09B0023-06; C09B0023-10 |
| GB 1529201 | IPCI | G03C0001-12; G03C0001-14; G03C0001-20; G03C0001-22;
G03C0001-26 |
| BE 839641 | IPCI | G03C |
| | IPCR | G03C0001-12 [I,C*]; G03C0001-12 [I,A]; G03C0001-705
[I,C*]; G03C0001-705 [I,A] |
| US 4138551 | IPCI | C09B0023-06; C09B0023-04; C09B0023-00 [C*] |
| | IPCR | G03C0001-12 [I,A]; G03C0001-12 [I,C*]; G03C0001-705
[I,A]; G03C0001-705 [I,C*] |
| | NCL | 544/212.000; 544/083.000; 544/113.000 |

GI

/ Structure 19 in file .gra /

AB The prepn. is described of spectral sensitizing dinuclear cyanine and merocyanine dyes which have attached either to a heterocyclic nucleus or to the methine chain an azine group which comprises .gtoreq.1 leaving group and which is reactive with a hydrophilic colloid which contains an SH, NH₂, NH, OH, CO₂H, or CONRR₁ (R, R₁ = H, lower alkyl) group. Thus, the dye I [70591-63-8] was prepnd. from 2-acetanilidovinyl-3-ethylbenzthiazolium iodide [35080-47-8] by sequential treatment with rhodanine [141-84-4] and Et₃N (in MeOH, reflux, 2 h), cyanuric chloride [108-77-0] and collidine (in THF, room temp.), and Et₃N. The activities of the dyes were assessed.

ST ***photog*** sensitizer cyanine merocyanine azine

IT ***Photographic*** sensitizers
(dinuclear cyanine and merocyanine dyes bearing azine groups)

IT 2972-52-3

RL: USES (Uses)
(condensation of, with aminopropyl dye)

IT 13242-19-8 24293-95-6 63971-43-7

RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with cyanuric chloride)

IT 108-77-0

RL: USES (Uses)
(condensation of, with dyes)

IT 63971-39-1 63971-41-5 63999-15-5 70591-60-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, with (phthalimidopropyl)benzothiazolium compd.)

IT 63971-36-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, with [(methylthio)propenyl]benzothiazolium compd.)

IT 1745-32-0P 63971-27-7P 63971-28-8P 63971-29-9P 63971-30-2P

63971-31-3P 63971-32-4P 63971-33-5P ***63971-44-8P***

64186-68-1P 70591-63-8P

RL: IMF (Industrial manufacture); PREP (Preparation)
(***photog*** . sensitizer, prepn. of)

IT 13416-14-3P 63971-40-4P 63971-42-6P 63999-13-3P 63999-16-6P
70591-58-1P 70591-61-6P 70591-62-7P

RL: IMF (Industrial manufacture); PREP (Preparation)
(prep. of, as intermediate in ***photog*** . sensitizer prepn.)

IT 141-84-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (acetanilidovinyl)ethylbenzothiazolium iodide)

IT 35080-47-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with rhodanine)

L4 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1977:525337 CAPLUS <>LOGINID::20061211>

DN 87:125337

ED Entered STN: 12 May 1984
 TI Spectral sensitizer for ***photographic*** materials
 IN Steiger, Rolf; Reber, Jean F.; Ezekiel, Aaron D.; Ficken, Geoffrey E.
 PA Ciba-Geigy A.-G., Switz.
 SO Ger. Offen., 137 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC G03C001-18,
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | DE 2611025 | A1 | 19760930 | DE 1976-2611025 | 19760316 |
| | CH 596576 | A | 19780315 | CH 1975-4847 | 19750416 |
| | GB 1529201 | A | 19781018 | GB 1975-11187 | 19760220 |
| | US 4040825 | A | 19770809 | US 1976-665981 | 19760311 |
| | CA 1056389 | A1 | 19790612 | CA 1976-247880 | 19760315 |
| | FR 2304940 | A1 | 19761015 | FR 1976-7730 | 19760317 |
| | FR 2304940 | B1 | 19790406 | | |
| | JP 51117619 | A2 | 19761015 | JP 1976-28210 | 19760317 |
| | US 4138551 | A | 19790206 | US 1977-781383 | 19770325 |
| | CH 597325 | A | 19780331 | CH 1977-9884 | 19770811 |
| PRAI | GB 1975-11187 | A | 19750318 | | |
| | CH 1975-4847 | A | 19750416 | | |
| | CH 1976-2100 | A | 19760220 | | |
| | US 1976-665981 | A3 | 19760311 | | |

CLASS

| | PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-----------|-------------|--|---|
| DE | 2611025 | IC | G03C001-18 |
| | | IPCI | G03C0001-18; G03C0001-14 [C*]; G03C0001-22; G03C0001-12 [C*] |
| | | IPCR | G03C0001-10 [I,C*]; G03C0001-10 [I,A]; C09B0062-002 [I,C*]; C09B0062-002 [I,A]; G03C0001-12 [I,C*]; G03C0001-12 [I,A]; G03C0001-705 [I,C*]; G03C0001-705 [I,A] |
| | | IPCI | G03C0001-00 |
| | | IPCR | G03C0001-12 [I,C*]; G03C0001-12 [I,A]; G03C0001-705 [I,C*]; G03C0001-705 [I,A] |
| | | IPCI | G03C0001-12; G03C0001-14; G03C0001-20; G03C0001-22; G03C0001-26 |
| | | IPCI | G03C0001-02; G03C0001-08; G03C0001-16; G03C0001-14 [C*]; G03G0005-09; G03G0005-04 [C*] |
| | | IPCR | G03C0001-10 [I,C*]; G03C0001-10 [I,A]; C09B0062-002 [I,C*]; C09B0062-002 [I,A]; G03C0001-12 [I,C*]; G03C0001-12 [I,A]; G03C0001-705 [I,C*]; G03C0001-705 [I,A] |
| | | NCL | 430/095.000; 430/093.000; 430/570.000; 430/573.000; 430/574.000; 430/576.000; 430/578.000; 430/579.000; 430/580.000; 430/583.000; 430/586.000; 430/588.000; 430/591.000; 430/592.000; 430/594.000 |
| | | IPCI | C09B0023-00; G03C0001-02 |
| CA | 1056389 | IPCR | G03C0001-10 [I,C*]; G03C0001-10 [I,A]; C09B0062-002 [I,C*]; C09B0062-002 [I,A]; G03C0001-12 [I,C*]; G03C0001-12 [I,A]; G03C0001-705 [I,C*]; G03C0001-705 [I,A] |
| | FR 2304940 | IPCI | G03C0001-19; C09B0023-00 |
| | | IPCR | G03C0001-10 [I,C*]; G03C0001-10 [I,A]; C09B0062-002 [I,C*]; C09B0062-002 [I,A]; G03C0001-12 [I,C*]; G03C0001-12 [I,A]; G03C0001-705 [I,C*]; G03C0001-705 [I,A] |
| | JP 51117619 | IPCI | G03C0001-10 |
| | | IPCR | G03C0001-10 [I,C*]; G03C0001-10 [I,A]; C09B0062-002 [I,C*]; C09B0062-002 [I,A]; G03C0001-12 [I,C*]; G03C0001-12 [I,A]; G03C0001-705 [I,C*]; G03C0001-705 [I,A] |
| US | 4138551 | IPCI | C09B0023-06; C09B0023-04; C09B0023-00 [C*] |
| | | IPCR | G03C0001-12 [I,C*]; G03C0001-12 [I,A]; G03C0001-705 [I,C*]; G03C0001-705 [I,A] |
| | | NCL | 544/212.000; 544/083.000; 544/113.000 |
| CH 597325 | IPCI | C09B0062-04; C09B0062-02 [C*]; C09B0023-00 | |

/ Structure 20 in file .gra /

AB The spectral sensitization of gelatin-Ag halide ***photog*** emulsions is achieved by using the reaction product of a spectral sensitizing dye with a hydrophilic colloid, such as gelatin. Thus, I 73.8 mg in trifluoroethanol was added to 5% aq. gelatin (pH 8.5), the mixt. stirred while the temp. was raised from 45 to 60.degree., the trifluoroethanol was then removed, the soln. flocculated with Na₂SO₄, decanted, and the flocculate taken up in water and dialyzed using a cellulose membrane to remove the SO₄²⁻ ion. A gelatin-AgBr emulsion was then prep'd. using the gelatin-sensitizer dye soln. 150 g (55.35 mg of the bound dye), 1M NH₄OH 3, 4M AgNO₃ 150, 4M NH₄Br 150, and 25% aq. NH₃ 3mL. This emulsion, after flocculation with NH₄NO₃, decantation, and redispersal, was coated on a support, dried, and sensitometrically exposed to show a sensitization between 480 and 650 nm and a max. at 580 nm.

ST gelatin dye ***photog*** sensitizer

IT ***Photographic*** sensitizers
(dye-gelatin reaction products as)

IT Gelatins, compounds

RL: USES (Uses)

(reaction products with dyes, as ***photog*** . sensitizers)

IT 36877-69-7D, reaction products with gelatin 63971-26-6D, reaction products with gelatin 63971-27-7D, reaction products with gelatin 63971-28-8D, reaction products with gelatin 63971-29-9D, reaction products with gelatin 63971-30-2D, reaction products with gelatin 63971-31-3D, reaction products with gelatin 63971-32-4D, reaction products with gelatin 63971-33-5D, reaction products with gelatin

RL: USES (Uses)

(as ***photog*** . sensitizer)

IT 13416-14-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and reaction of, with cyanuric chloride)

IT 63971-40-4P 63971-42-6P ***63971-44-8P*** 63971-45-9P

63971-46-0P 63999-16-6P 64186-68-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)

IT 141-84-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with acetanilidovinylbenzthiazolium iodide)

IT 63971-47-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with chloropropionyl chloride and triethylamine)

IT 13242-19-8 24293-95-6 63971-43-7 63999-13-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with cyanuric chloride)

IT 108-77-0 625-36-5 2972-52-3 18791-02-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with dyes)

IT 63971-36-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with ethyl(methylthio)propenylbenzthiazolium methyl sulfate).

IT 63971-39-1 63971-41-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with methyl(phthalimido)benzthiazolium bromide)

IT 63971-38-0 63999-15-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with methyl(phthalimidopropyl)benzthiazolium bromide)

IT 35080-47-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with rhodanine)

ED Entered STN: 12 May 1984
TI Silver halide ***photographic*** emulsions for use with laser light
IN Habu, Teiji; Nakajima, Tomio; Mine, Kiyomitsu; Fujimori, Noboru; Sakamoto,
Eiichi

PA Konishiroku Photo Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC G03C001-18

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------|------|----------|-----------------|----------|
| PI JP 51115822 | A2 | 19761012 | JP 1975-40961 | 19750403 |
| JP 55002611 | B4 | 19800121 | | |
| PRAI JP 1975-40961 | A | 19750403 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|-------|--|
| JP 51115822 | IC | G03C001-18 |
| | IPCI | G03C0001-18; G03C0001-14 [C*] |
| | IPCR | G03C0001-12 [I,C*]; G03C0001-12 [I,A]; G03C0001-14 [I,C*]; G03C0001-18 [I,A] |

GI For diagram(s), see printed CA Issue.

AB Ag halide ***photog*** emulsions for use with ruby laser light (694.3 nm) are obtained by using a spectral sensitizing dye with the formula I [Z1 = atoms required to complete a 4-quinoline ring; Z2 = atoms required to complete a thiazole, benzothiazole, naphthothiazole, selenazole, benzoselenazole, naphthoselenazole, oxazole, benzoxazole, naphthooxazole, 3H-benzindole or 2-quinoline ring; R, R1 = lower alkyl; R2 = lower alkyl or aryl; R3 = H, lower alkyl or aryl; X- = anion; m, n, p = 1, 2]. Thus, a Ag(Br, I) (AgI 1 mol %) emulsion prep'd. in the conventional manner was sensitized with the dye II 50 mg/mol Ag halide, coated on a pretreated cellulose triacetate support, dried, exposed for 10-5 s with a ruby laser through a neutral gray wedge and developed to give a relative sensitivity of 115 vs. 100 when the film was exposed for 1 s with the red light from a W lamp with an interference filter.

ST laser sensitive ***photog*** emulsion; carbocyanine dye ***photog*** sensitizer

IT ***Photographic*** sensitizers
(carbocyanine dyes as, for ruby laser-sensitive silver halide emulsions)

IT ***Photographic*** emulsions
(ruby laser-sensitive, contg. carbocyanine dyes)

IT 20591-23-5 29704-16-3 51257-37-5 57752-49-5 62312-13-4
62312-14-5 62312-15-6 62312-16-7 ***62312-17-8*** 62312-18-9
62312-19-0 62312-20-3 62312-21-4 62312-22-5 62314-14-1
62355-91-3

RL: TEM (Technical or engineered material use); USES (Uses)
(***photog*** sensitizer, for ruby laser-sensitive silver halide emulsions)

L4 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1974:431848 CAPLUS <<LOGINID::20061211>>

DN 81:31848

ED Entered STN: 12 May 1984

TI Sensitized electrophotographic layers

IN Oehlschlaeger, Hans; Riester, Oskar; Ghys, Theofiel H.; Verhille, Karel E.; Vanheertum, Johannes J.

PA Agfa-Gevaert A.-G.

SO Ger. Offen., 22 pp.

CODEN: GWXXBX

DT Patent

LA German

IC G03G

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| PI DE 2214055 | A1 | 19730927 | DE 1972-2214055 | 19720323 |
| BE 796792 | A2 | 19730917 | BE 1973-1004896 | 19730315 |

| | | | | |
|----------------------|----|----------|----------------|----------|
| US 3881926 | A | 19750506 | US 1973-342872 | 19730319 |
| GB 1401133 | A | 19750723 | GB 1973-13277 | 19730320 |
| CA 984651 | A1 | 19760302 | CA 1973-166696 | 19730321 |
| IT 979930 | A | 19740930 | IT 1973-48929 | 19730322 |
| CH 582368 | A | 19761130 | CH 1973-4191 | 19730322 |
| FR 2177095 | A1 | 19731102 | FR 1973-10544 | 19730323 |
| JP 49008237 | A2 | 19740124 | JP 1973-32818 | 19730323 |
| PRAI DE 1972-2214055 | A | 19720323 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES | | |
|-------------|-------|---|--|--|
| DE 2214055 | IC | G03G | | |
| | IPCI | G03G0005-04 | | |
| | IPCR | G03G0005-04 [I,C*]; G03G0005-09 [I,A]; C09B0023-00
[I,C*]; C09B0023-01 [I,A]; G03G0005-06 [I,C*];
G03G0005-06 [I,A] | | |
| BE 796792 | IPCI | G03G | | |
| | IPCR | G03G0005-04 [I,C*]; G03G0005-09 [I,A]; C09B0023-00
[I,C*]; C09B0023-01 [I,A]; G03G0005-06 [I,C*];
G03G0005-06 [I,A] | | |
| US 3881926 | IPCI | G03G0005-08 | | |
| | IPCR | G03G0005-04 [I,C*]; G03G0005-09 [I,A]; C09B0023-00
[I,C*]; C09B0023-01 [I,A]; G03G0005-06 [I,C*];
G03G0005-06 [I,A] | | |
| GB 1401133 | NCL | 430/078.000; 430/083.000; 430/093.000 | | |
| CA 984651 | IPCI | G03G0005-09; G03G0005-04 [C*] | | |
| | IPCR | G03G0005-04 [I,C*]; G03G0005-09 [I,A]; C09B0023-00
[I,C*]; C09B0023-01 [I,A]; G03G0005-06 [I,C*];
G03G0005-06 [I,A] | | |
| IT 979930 | IPCI | G03G | | |
| | IPCR | G03G0005-04 [I,C*]; G03G0005-09 [I,A]; C09B0023-00
[I,C*]; C09B0023-01 [I,A]; G03G0005-06 [I,C*];
G03G0005-06 [I,A] | | |
| CH 582368 | IPCI | G03G0005-09; G03G0005-04 [C*] | | |
| | IPCR | G03G0005-04 [I,C*]; G03G0005-09 [I,A]; C09B0023-00
[I,C*]; C09B0023-01 [I,A]; G03G0005-06 [I,C*];
G03G0005-06 [I,A] | | |
| FR 2177095 | IPCI | G03G0005-04 | | |
| | IPCR | G03G0005-04 [I,C*]; G03G0005-09 [I,A]; C09B0023-00
[I,C*]; C09B0023-01 [I,A]; G03G0005-06 [I,C*];
G03G0005-06 [I,A] | | |
| JP 49008237 | IPCI | G03G0005-04 | | |
| | IPCR | C09B0023-00 [I,C*]; C09B0023-01 [I,A]; G03G0005-06
[I,A]; G03G0005-06 [I,C*] | | |

GI For diagram(s), see printed CA Issue.

AB Cyanine dyes (I, II, III; R = NO₂, acyl; R₁, R₂ = aryl, satd. or unsatd. aliph.; R₃ = H, aryl, satd. or unsatd. aliph.; R₄ = SR₇, NR₈R₉ where R₇, R₈, R₉ = aliph. or R₈R₉ together completing a 5- or 6-member heterocyclic ring; n, p = 0, 1; M = 0-3 interger; X- = anion; Z₁, Z₂ = atom groups for completing a 5- or 6-member heterocyclic ring.) are used as spectral sensitizers for zinc oxide and org. photoconductors in electrophotog. Thus, 0.1 g IV as 0.1% soln. in DMF was added to a photoconductive compn. prepnd. from ZnO 20, acrylic copolymer 4.5 g, PhMe 20, EtOAc 11 and 10% tetrachlorophthalic anhydride in EtOH 0.66 ml., coated on a baryta paper (25 g ZnO/m²), charged, exposed to an incandescent lamp (2280 lx) through a stepwedge for 15 sec to give 25 steps with a max. sensitivity at 555 nm. as compared to only 14 steps for IV-free control.

ST cyanine sensitizer electrophotog

IT ***Photographic*** sensitizers
(electro-, cyanine dyes as)

| | | | | |
|---------------|------------|------------|------------|---------------------------|
| IT 42905-55-5 | 42905-56-6 | 42905-57-7 | 42905-58-8 | ***42905-61-3*** |
| 42905-69-1 | 42905-72-6 | 42905-84-0 | 42905-86-2 | 42905-95-3 |
| 43138-17-6 | 53035-24-8 | 53035-26-0 | 53035-28-2 | 53035-30-6 |
| 53035-32-8 | 53035-34-0 | 53035-36-2 | 53035-38-4 | 53092-12-9 53092-14- |
| 1 | 53100-80-4 | | | |

RL: USES (Uses)
(electrophotog. sensitizer)

ED Entered STN: 12 May 1984
TI Polymethine sensitizers for direct-positive emulsions
IN Riester, Oskar; Oehlschlaeger, Hans; Odenwaelder, Heinrich
PA Agfa-Gevaert A.-G.
SO Ger. Offen., 28 pp.
CODEN: GWXXBX

DT Patent

LA German

IC G03C

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------|------|----------|-----------------|----------|
| PI | DE 2142967 | A1 | 19730308 | DE 1971-2142967 | 19710827 |
| | BE 787442 | A2 | 19730212 | BE 1972-1004289 | 19720811 |
| | US 3846137 | A | 19741105 | US 1972-282968 | 19720823 |
| | GB 1392127 | A | 19750430 | GB 1972-39408 | 19720824 |
| | FR 2150884 | A1 | 19730413 | FR 1972-30441 | 19720825 |
| | CH 566572 | A | 19750915 | CH 1972-12610 | 19720825 |
| | CA 995052 | A1 | 19760817 | CA 1972-150158 | 19720825 |
| | JP 48032528 | A2 | 19730428 | JP 1972-85464 | 19720828 |
| PRAI | DE 1971-2142967 | A | 19710827 | | |

CLASS

| | PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|--|-------------|-------|--|
| | DE 2142967 | IC | G03C |
| | | IPCI | G03C0001-20; G03C0001-14 [C*] |
| | | IPCR | C09B0023-00 [I,C*]; C09B0023-00 [I,A]; C09B0023-01 [I,A]; G03C0001-485 [I,C*]; G03C0001-485 [I,A] |
| | BE 787442 | IPCI | G03C |
| | US 3846137 | IPCI | G03C0001-16; G03C0001-18; G03C0001-14 [C*] |
| | | IPCR | C09B0023-00 [I,C*]; C09B0023-00 [I,A]; C09B0023-01 [I,A]; G03C0001-485 [I,C*]; G03C0001-485 [I,A] |
| | GB 1392127 | NCL | 430/581.000; 430/584.000; 430/586.000; 430/589.000 |
| | | IPCI | G03C0001-485; G03C0001-22; G03C0001-12 [C*]; G03C0001-20; G03C0001-18; G03C0001-14 [C*]; C09B0023-08; C09B0023-06; C09B0023-10; C09B0023-00 [C*] |
| | | IPCR | C09B0023-00 [I,C*]; C09B0023-00 [I,A]; C09B0023-01 [I,A]; G03C0001-485 [I,C*]; G03C0001-485 [I,A] |
| | FR 2150884 | IPCI | G03C0001-00 |
| | | IPCR | C09B0023-00 [I,C*]; C09B0023-00 [I,A]; C09B0023-01 [I,A]; G03C0001-485 [I,C*]; G03C0001-485 [I,A] |
| | CH 566572 | IPCI | G03C0001-20; G03C0001-14 [C*] |
| | | IPCR | C09B0023-00 [I,C*]; C09B0023-00 [I,A]; C09B0023-01 [I,A]; G03C0001-485 [I,C*]; G03C0001-485 [I,A] |
| | CA 995052 | IPCR | C09B0023-00 [I,C*]; C09B0023-00 [I,A]; C09B0023-01 [I,A]; G03C0001-485 [I,C*]; G03C0001-485 [I,A] |
| | JP 48032528 | IPCI | G03C0001-20; G03C0001-14 [C*] |
| | | IPCR | C09B0023-00 [I,C*]; C09B0023-01 [I,A]; G03C0001-485 [I,A]; G03C0001-485 [I,C*] |

GI For diagram(s), see printed CA Issue.

AB Previously described polymethine dyes from heterocyclic base constituents of cyanine dyes with a CN, NO₂, or acyl group at a lateral CH group of the polymethine chain, 20-70 mg/kg, are particularly suitable for direct pos. emulsions because their sensitizing curve is steep and they leave little strain. The sensitizing maxs. of 51 examples vary between 515 and 655 nm. Thus, 2-(cyanomethylene)-3-ethylbenzothiazole 1.0 g and 4-(acetanilidovinyl)-1,3-dimethyl-2-pyrimidone perchlorate 1.7 g were refluxed in Ac₂O 10 ml for 10 min to yield I, a typical dye with a sensitizing max. at 580 nm.

ST direct pos ***photog*** sensitizer; methine dye sensitizer
photog

IT ***Photographic*** sensitizers
(polymethine dyes contg. cyano and nitro groups as, for direct-pos. emulsions)

IT 21648-40-8 42905-55-5 42905-56-6 42905-57-7 42905-58-8
42905-59-9 42905-60-2 ***42905-61-3*** ***42905-62-4***
42905-63-5 42905-64-6 42905-65-7 42905-66-8 42905-67-9
42905-68-0 42905-69-1 42905-70-4 42905-71-5 42905-72-6
42905-73-7 42905-74-8 42905-75-9 ***42905-76-0*** 42905-77-1
42905-78-2 42905-79-3 42905-80-6 42905-81-7 42905-82-8
42905-83-9 42905-84-0 42905-85-1 42905-86-2 42905-87-3

42905-88-4 42905-89-5 42905-90-8 42905-91-9 42905-92-0
42905-93-1 42905-94-2 42905-95-3 42905-96-4 42905-97-5
42905-98-6 42905-99-7 42906-00-3 43004-13-3 43138-17-6 49715-94-
8 50795-72-7

RL: TEM (Technical or engineered material use); USES (Uses)
(***photog*** . sensitizer, for direct-pos. emulsions)

L4 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1973:50550 CAPLUS <>LOGINID::20061211>>
DN 78:50550
ED Entered STN: 12 May 1984
TI Supersensitized ***photographic*** emulsions
IN Hiller, Gary L.
PA Eastman Kodak Co.
SO U.S., 6 pp.
CODEN: USXXAM
DT Patent
LA English
IC G03C
INCL 096126000
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------|------|----------|-----------------|----------|
| PI US 3706567 | A | 19721219 | US 1970-90435 | 19701117 |
| PRAI US 1970-90435 | A | 19701117 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|------------|---------|------------------------------------|
| US 3706567 | IC G03C | 096126000 |
| | INCL | |
| | IPCI | G03C0001-14 |
| | NCL | 430/576.000 |

AB The triazinylaminostilbenesulfonates disclosed in U.S. 3,416,927 and 2,933.390 are used to supersensitive gelatin-Ag halide emulsions contg. sym. or unsym. cyanine or merocyanine imidazolo[4,5-b]-quinoline spectral sensitizing dyes. Thus, a ***photog*** . gelatin Ag-(Br, I) emulsion contg. 0.08 g/mole Ag of 1,1',3,3'-tetraethyl-1H-imidazolo[4,5-b]quinocarbocyanine iodide (I) and 0.50 g/mole Ag of di-Na 4,4'-bis[anilino-6-hydroxy-s-triazin-2-ylamino-stilbenel]-2,2'-disulfonate (II) had a relative speed of 933 vs. 100 for a II-free control emulsion contg. only I as the spectral sensitizer.

ST spectral sensitization ***photog*** emulsion; silver halide supersensitization; gelatin silver halide supersensitization

IT ***Photographic*** sensitizers
(super-, imidazoquinocarbocyanine dye-triazinylaminostilbene sulfonate combinations as)

IT 1264-32-0

RL: USES (Uses)
(***photographic*** supersensitizers from imidazoquinocarbocyanine dyes and)

IT 4742-61-4 4742-64-7 4742-69-2 4742-71-6 4977-20-2 4980-85-2
4980-86-3 5036-79-3 28279-24-5 40261-77-6 ***40261-78-7***
40261-83-4 40261-84-5

RL: USES (Uses)
(***photographic*** supersensitizers from triazinylaminostilbene sulfonates and)

L4 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1971:524997 CAPLUS <>LOGINID::20061211>>
DN 75:124997
ED Entered STN: 12 May 1984
TI Supersensitized ***photographic*** silver halide emulsions
IN Kalenda, Norman W.
SO Def. Publ. U. S. Pat. Off. T, 5 pp.
From: Off. Gaz., U. S. Patent Off. 1971, 888(3), 707.
CODEN: USXXBN
DT Patent
LA English
IC G03C
INCL 096124000
CC 74 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------|------|----------|-----------------|----------|
| PI US 888015 | | 19710720 | US | 19601204 |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|------------|-----------------|------------------------------------|
| US 888015 | IC G03C | 096124000 |
| | IPCI G03C | |
| | NCL 073/385.000 | |

AB ***Photog*** Ag halide emulsions are supersensitized by incorporating in the emulsion benzimidazolocarbocyanine dyes with unsym. carbocyanine dyes having 1H-imidazo[4,5-b] quinoline nuclei. An example is a gelatin Ag(Br,I) emulsion of the type described by Trivelli, et al. (1939) contg. 0.08 mg/mole Ag of 4,4',5-5'-tetrachloro-1,1',3,3'-tetraethylbenzimidazolocarbocyanine iodide and 0.08 mg/mole Ag of 1,3,3'-triethyl-1H-imidazo[4,5-b]-quinothiacarbocyanine iodide.

ST supersensitizer benzimidazolo carbocyanine; silver halide supersensitizing; emulsion ***photog*** supersensitizing

IT ***Photographic*** sensitizers (super-, benzimidazolocarbocyanine-imidazoquinothiacarbocyanine dye mixts. as)

IT 4742-64-7 4742-65-8 34030-48-3 34030-49-4 34030-52-9 34030-53-0
40261-77-6 ***40261-78-7***

RL: USES (Uses)

(***photographic*** supersensitizers from benzimidazolocarbocyanine dyes and)

IT 3325-10-8 5491-34-9 5563-28-0 34030-40-5 34030-42-7 34030-43-8
34030-44-9 34030-45-0

RL: USES (Uses)

(***photographic*** supersensitizers from imidazoquinothiacarbocyanine dyes and)

L4 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1970:525723 CAPLUS <<LOGINID::20061211>>

DN 73:125723

ED Entered STN: 12 May 1984

TI Spectral sensitized ***photographic*** silver halide emulsions

IN Shiba, Keisuke; Hinata, Masanao; Tsuji, Nobuo; Sawahara, Masao

PA Fuji Photo Film Co. Ltd.

SO Ger. Offen., 22 pp.

CODEN: GWXXBX

DT Patent

LA German

IC G03C

CC 74 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------------|------|----------|-----------------|----------|
| PI DE 1960730 | A | 19700702 | DE 1969-1960730 | 19691203 |
| DE 1960730 | B2 | 19730208 | | |
| DE 1960730 | C3 | 19730823 | | |
| JP 49049504 | B4 | 19741227 | JP 1968-88768 | 19681204 |
| BE 742588 | A | 19700514 | BE 1969-742588 | 19691203 |
| FR 2025194 | A5 | 19700903 | FR 1969-41642 | 19691203 |
| GB 1283595 | A | 19720726 | GB 1969-1283595 | 19691203 |
| US 3615637 | A | 19711026 | US 1969-882271 | 19691204 |
| PRAI JP 1968-88768 | A | 19681204 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|-------------|---|------------------------------------|
| DE 1960730 | IC G03C | |
| | IPCI G03C [ICM] | |
| | IPCR C08G0008-00 [I,C*]; C08G0008-00 [I,A]; C08G0008-08 [I,A]; G03C0001-04 [I,C*]; G03C0001-04 [I,A]; G03C0001-08 [I,C*]; G03C0001-28 [I,A] | |
| JP 49049504 | IPCI G03C0001-28; G03C0001-08 [C*] | |
| BE 742588 | IPCI G03C0001-28; G03C0001-08 [C*] | |
| FR 2025194 | IPCI G03C0007-00 [ICM]; C09B0023-00 [ICS]; C07C0039-00 [ICS]; C07C0143-00 [ICS]; C07C0065-00 [ICS] | |
| GB 1283595 | IPCI G03C0001-28; G03C0001-08 [C*] | |

US 3615637 IPCI G03C0001-28 [ICM]; G03C0001-08 [ICM,C*]
NCL 430/576.000; 430/582.000; 430/586.000

GI For diagram(s), see printed CA Issue.

AB Ag halide ***photographic*** emulsions with increased sensitivity and decreased fog contain a sensitizer dye of general formula I, where Z1 is a nonmetallic group which completes a 4-quinoline nucleus, Z2 is a nonmetallic group which completes a 5- or 6-membered heterocycle, R1 and R2 are optionally substituted alkyl, m = 1 or 2, X is an anion, p = 1 or 2, being 1 when the dye forms an internal salt, and a novolak of an optionally substituted hydroxybenzene (II) and HCHO. Typical examples of I are III and IV. Typical II are 4-hydroxybenzoic acid hydrazide, p-chlorophenol, Na hydroxybenzenesulfonate, o-, m-, or p-hydroxybenzoic acid, hydroquinone, and gallic acid. From 0.002 to 0.2 g of I and 0.1-5 g of the novolak are added per mole of Ag halide in the emulsion. Ag halide emulsions contg. I and the novolak are coated on cellulose acetate, exposed, and developed conventionally and show greater increases in sensitivity and decreases in fog than emulsions contg. only I.

ST spectral sensitizing ***photog*** emulsions; emulsions ***photog*** spectral sensitizing; sensitizing spectral ***photog*** emulsions; dyes spectral sensitizing ***photog*** ; novolak dyes spectral sensitizing

IT ***Photographic*** sensitizers
(super-, from carbocyanine dyes and formaldehyde-hydroxybenzoic acid reaction products)

IT Benzoic acid, p-hydroxy-

Gallic acid

Hydroquinone

RL: USES (Uses)

(reaction products with formaldehyde, ***photographic*** supersensitizers from carbocyanine dyes and)

IT Salicylic acid

RL: USES (Uses)

(reaction products with formaldehyde, ***photographic*** supersensitizers from carbocyanine dyes and)

IT Formaldehyde

RL: USES (Uses)

(reaction products with hydroxybenzoic acids, ***photographic*** supersensitizers from carbocyanine dyes and)

IT 2642-25-3 20591-23-5 29704-12-9 29704-13-0 ***29704-14-1***
29704-15-2 29704-16-3 29704-18-5 29704-19-6 29704-20-9
29704-21-0 29704-22-1 29704-23-2 29704-24-3 31598-35-3

RL: USES (Uses)

(***photographic*** supersensitizers from formaldehyde-hydroxybenzoic acid reaction products and)

IT 99-06-9

RL: USES (Uses)

(reaction products with formaldehyde, ***photographic*** supersensitizers from carbocyanine dyes and)

IT 106-48-9

RL: USES (Uses)

(reaction products with formaldehyde, ***photographic*** supersensitizers from carbocyanine dyes and)

=> d his

(FILE 'HOME' ENTERED AT 08:03:40 ON 11 DEC 2006)

FILE 'REGISTRY' ENTERED AT 08:03:48 ON 11 DEC 2006

L1 248 S QUINOLINIUM AND INDOL(5W)YLIDENE AND PROPENYL

FILE 'CAPLUS' ENTERED AT 08:04:53 ON 11 DEC 2006

L2 67 S L1

L3 8 S (OPTICAL OR LASER OR INFORMATION) AND L2

L4 9 S L2 AND PHOTOGRAPHIC

=> log y

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| FULL ESTIMATED COST | 60.91 | 81.04 |

| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE | TOTAL |
|--|------------|-------|
|--|------------|-------|

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STN INTERNATIONAL LOGOFF AT 08:06:13 ON 11 DEC 2006